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ABSTRACT

The results of two studies describing the strategies and attitudes of adult learners of English as a Second Language (ESL) are reported. The first study compared two groups of high/intermediate students (n=94) taking ESL in two settings, a traditional university and community extension classes. The second study examined intermediate and advanced students (n=177) in a large adult school, and included a comparison of students from three native language groups (Chinese, Japanese, and Spanish). Certain strategies, such as "saying answers to oneself," "using English at a job," "getting the gist before looking up new words," and "guessing meanings from actions or context" were positively related to achievement. Some interaction behaviors such as "starting conversations simply to practice English" or "relying on gestures to clarify meaning" showed negative associations with achievement. In the first study, positive attitudes toward second language learning in general and positive attitudes toward experiences in the ESL classroom were significantly related to achievement. In the second study, the only attitudinal factor associated with achievement represented an instrumental motivation for the study of English for occupational or professional purposes. The implications of these results for the teaching and learning of ESL are discussed. (Author/MSE)

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THE "GOOD LEARNER" OF ENGLISH IN TWO SETTINGS

Mary E. McGroarty

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TR12

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Center for Language Education and Research
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1989

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Abstract

This report presents the results of two studies that described the strategies and attitudes of adult learners of English as a second language (ESL). Study #1 compared two groups of high/intermediate students (n = 94) taking ESL in two settings (a traditional university and community extension classes). Study #2 examined intermediate and advanced students (n = 177) in a large adult school, and included a comparison of students from three native language groups (Chinese, Japanese, and Spanish). Certain strategies, such as "saying answers to oneself," "using English at a job," "getting the gist before looking up new words," and "guessing meanings from actions or context," were positively related to achievement. Some interaction behaviors, such as "starting conversations simply to practice English" or "relying on gestures to clarify meaning," showed negative associations with achievement. In Study #1, positive attitudes toward second language learning in general, and positive attitudes towards experiences in the ESL classroom, were significantly related to achievement. In Study #2, the only attitudinal factor associated with achievement represented an instrumental motivation for the study of English for occupational or professional purposes. These results are discussed in terms of implications for the teaching and learning of English as a second language.

Introduction

Recent research on effective language learners has identified some of the behaviors and attitudes that contribute to successful language study (McGroarty, 1988; Oxford, 1986). In addition, research on motivation and language study (cf. Gardner, 1985) has described the constellation of attitudes and motives that contribute to success in language study.

Findings from a variety of investigations (e.g., McGroarty, 1987, 1988; Politzer, 1983; Politzer & McGroarty, 1985; Ramirez, 1986;) have identified different patterns of study behaviors and attitudes associated with success in language learning for different groups of students. In general, these studies indicate that the utility of various study strategies and the nature of effective motivation may vary somewhat according to the particular language studied, students' background, and students' educational status and proficiency level in the second language.

The present study provides a descriptive portrait of one group of second language learners, adults learning English as a second language in the U.S., in order to contribute information specific to their situation and to generate data generally relevant to the study of a second language. Because adults learning a second language typically do so out of necessity rather than as part of a comprehensive educational program, they constitute a population whose approaches to language learning are of great theoretical interest. Furthermore, because the number of adults in the U.S. who have limited English proficiency conservatively numbers over 20 million and is increasing (Bureau of the Census, 1980, Table 99), information pertinent to adult learning of English has great practical importance as well.

The UCLA Center for Language Education and Research (CLEAR) undertook a descriptive study of the strategies and attitudes of adult learners of English in two different settings, the university classroom and the adult school, in order to document the behaviors and attitudes associated with achievement. At the beginning of an instructional term, students provided background information and completed two questionnaires, one regarding the strategies used in three different

settings (the ESL classroom; interaction with others outside class; and in individual study) and one regarding attitudes and opinions related to second language study. Background information and the questionnaire items were then correlated with final tests and grades to identify those behaviors and attitude factors linked with achievement in learning English.

In order to provide comparability in results, we wished to study students who had common classroom instruction and final test measures so that any differences could be attributed to differences in setting rather than to the influences of different instructional methods or assessment instruments. However, little uniformity exists in adult ESL instruction: Although university programs generally have a predetermined curriculum and related assessments, community-based programs often follow a variety of pedagogical approaches, not all of which include formal assessment of student progress. Hence, we faced a dilemma in choosing appropriate research subjects.

This dilemma was resolved by conducting two related studies. Study #1 compared university students and students in a community extension program who were enrolled in the same advanced-intermediate course and took the same end-of-course exam. This study showed most clearly the extent to which university and adult students at the same proficiency level were comparable. Study #2, aimed at identifying the strategies and attitudes of intermediate and advanced students in a large, publicly funded community adult school, provided additional information that allowed for comparison of three major first language groups (Chinese, Japanese, and Spanish) enrolled in the intermediate and advanced courses there.

STUDY #1: UNIVERSITY AND EXTENSION ESL STUDENTS

Methodology

Subjects

Two groups of intermediate-to-advanced students served as subjects for this study. The University group (n = 57) included students from four different sections of the advanced intermediate English course at UCLA which was the last of three ESL courses required of non-native speakers of English. The course met five hours

per week for ten weeks. Participants represented ten different native language groups, with the plurality being speakers of Chinese dialects (23, or 40.4%), followed by speakers of Vietnamese (7; 12.3%) and Korean (6; 10.5%). Other native language groups were Farsi, Italian, Japanese, Urdu, and Portuguese. All participants (27 males, 19 females, 11 gender unknown) were regularly enrolled university students taking other courses besides English, and ranged from freshman to graduate level.

The Extension group (n = 37; 16 males, 21 females) was more heterogeneous. These students were enrolled in two different sections of the same advanced intermediate course that met for five hours per week in the evening for ten weeks. Thirteen different language groups were represented: Spanish (5, 13.5%), Chinese dialects (5, 13.5%), French (4, 10.8%), Thai (4, 10.8%), Korean (3, 5.3%), Portuguese (3, 5.3%), and German, Farsi, Tagalog, Hebrew, Japanese, Russian, and Swedish (one or two each). Some students held full-time jobs; others were students at other institutions who sought to improve English skills so that they could seek additional education in English; and others took the course for a variety of personal reasons.

Analysis of background information showed that the two groups were similar in terms of years of prior English study, amount of English spoken in the U.S. outside class, and number of other languages spoken. Because students in both groups had come into the course via similar routes, either by taking the same placement exam or by completing previous courses, their English language proficiency was assumed to be similar. The University group, however, was significantly younger (average age 24 years, sd = 4.2 years) than the Extension group (average age 26.5 years, sd = 5.20 years; t ratio = 2.31, $p < .05$). University students had also resided in the U.S. significantly longer (mean of 3 years (sd = 3.8) versus 1.2 years (sd = 2.1), t ratio = -2.91, $p < .01$). The difference in prior U.S. schooling was even greater, with the University group having had a significantly longer average length of U.S. education (3.3 years, sd = 3.75), and the Extension students having had little U.S. schooling (average of .4 years, sd = .8; t ratio = -3.78, $p < .001$).

Procedures and Materials

The investigator contacted all students at the beginning of the instructional term (Winter Quarter, 1987, for University, Spring Quarter, 1987, for Extension) and asked them to participate in a descriptive study of ESL learning. Volunteers filled out a background information form and two questionnaires, one regarding preferred second language learning strategies, and one pertaining to opinions about language study and the study of English. The information forms and questionnaires were completed during class time. At the end of the quarter, information on final exam scores and grades was obtained from course instructors.

Learning Strategy Questionnaire. The Learning Strategy Questionnaire completed by 86 students, consisted of three self-report scales that assessed the frequency of strategy use in the second language classroom (Scale A, 17 items, alpha = .75), in interaction with others outside class (Scale B, 20 items, alpha = .77), and during individual study of the second language (Scale C, 21 items, alpha = .80). Responses were based on a seven-point scale ranging from 6 (always) to 1 (never), with Ø representing "not applicable to me."

Opinion Questionnaire. The Opinion Questionnaire used a seven-point Likert scale (ranging from 7, "strongly agree" to 1, "strongly disagree," with 4 representing "no opinion") with 65 items assessing four dimensions (determined by factor analysis) of attitudes towards second language learning. Factor I (18 items) represented the study of English for instrumental ends, with emphasis on future professional goals; factor II (15 items) reflected integrative motivation and included items pertaining to a desire to understand and interact with English speakers; factor III (9 items) demonstrated favorable orientation towards second language study in general; and factor IV (6 items) reflected positive response towards the student's experience in the ESL classroom. Cronbach's alpha for the entire questionnaire was .85; 13 items were deleted because of low internal consistency. Eighty six students completed this questionnaire.

Achievement. End-of-course achievement was assessed by a two-part final exam. Part I was a 60-point multiple-choice exam which measured students' ability to detect errors in written work, (20 items), their

reading comprehension (15 items, each worth 2 points), and their listening comprehension (10 items). Cronbach's alpha for the whole exam was .69. The other part of the final exam score was the students' exam composition, worth 40 points, which was rated by two independent raters on a scale measuring organization, development of ideas, correct expression, and mechanics. Students also received final grades to indicate overall performance in the course.

Results

Learning Strategies

Students' self-reported language learning strategies for the three scales of interest appear in Tables 1 (Scale A, Classroom Behaviors), 2 (Scale B, Interaction Behaviors), and 3 (Scale C, Individual Study Behaviors). The tables provide the rank order of frequencies, descriptive labels for items, and means and standard deviations. (In these calculations, any respondent answering 0 or "not applicable" to any item on a scale was deleted from the total for that scale.)

The most frequent learning strategies employed in the classroom (Scale A) were related to "guessing meaning from context" (with a mean of 4.92 and standard deviation of 1.03) and "guessing meaning from actions" (4.79, 1.06), followed by two strategies related to self-directed monitoring of language production, "saying correct form to self if error made" (4.69, 1.18) and "going over homework after class" (4.69, 1.27). Behaviors least often used in the classroom were "asking teacher for examples of rules" (3.00, 1.13) and "saying correct answer aloud to self in class" (2.94, 1.49). [See Table 1.]

The strategies most often used in interaction outside class (Scale B) were "using English at a job" (4.96, .97), "rephrasing if I'm not understood" (4.89, 1.05), and "using English in other classes and activities" (4.79, 1.39). The least frequent interaction behaviors included "starting conversations to practice English" (3.28, 1.32) and "practicing English with bilinguals who speak my own first language" (3.09, 1.61). [See Table 2.]

During individual study of English outside class (Scale C), the behaviors emphasized were "getting the gist before looking up new words" (4.61, 1.02), "looking up new words in the glossary of the

Table 1

Means and Standard Deviations of Learning Behaviors, University and Extension ESL Students

(Scale 6=always, 1=never, 0=n/a)

Scale A. In the ESL Classroom (n = 67)

Rank	Item	$\bar{X}$	sd
1	Guess meaning from context (A8)	4.92	1.03
2	Guess meaning from actions (A3)	4.79	1.06
3	Say correct form to self if error made (A4)	4.69	1.18
4	Go over homework after class (A21)	4.69	1.27
5	Take notes on new words (A18)	4.40	1.09
6	Say answer to myself (A2)	4.37	1.30
7	Use English voluntarily in class (A13)	4.21	1.30
8	Interrupt self if error made (A7)	4.10	1.09
9	Compare answers with others in class (A19)	4.06	1.14
10	Ask teacher about exceptions to rules (A6)	3.79	1.19
11	Go over material after class (A9)	3.79	1.34
12	Integrate new material with old (A20)	3.66	1.19
13	Ask teacher to repeat (A15)	3.43	1.14
14	Repeat new words so I'll learn them (A11)	3.39	1.11
15	Ask when, by whom an expression is used (A10)	3.30	1.14
16	Ask teacher for examples of rules (A12)	3.00	1.13
17	Say correct answer aloud to self (A1)	2.94	1.49

Reliability (Cronbach's alpha) = .75

Table 2

Means and Standard Deviations of Learning Behaviors, University and Extension ESL Students

(Scale 6=always, 1=never, 0=n/a)

Scale B. In Interaction with Others Outside Class (n = 53)

Rank	Item	$\bar{X}$	sd
1	Use English at a job (B19)	4.96	.97
2	Rephrase if I'm not understood (B6)	4.89	1.05
3	Use Engligh in other classes, activities (B24)	4.79	1.39
4	Correct myself when speaking (B3)	4.75	1.17
5	Guess meaning from gestures (B17)	4.53	1.05
6	Use English w/classmates outside class (B23)	4.51	1.41
7	Ask others to repeat (B2)	4.11	1.37
8	Notice items that don't fit rules (B15)	4.04	1.24
9	Ask others for confirmation of English (B16)	4.00	1.14
10	Use new words in conversation (B5)	4.00	1.16
11	Direct talk to familiar topics (B20)	4.00	1.29
12	Ask English speakers for help in English (B1)	3.87	1.33
13	Use gestures if I don't know words (B10)	3.77	1.34
14	Spell, write if I'm not understood (B12)	3.64	1.52
15	Use memorized forms to keep talking (B8)	3.96	1.25
16	Socialize with English speakers (B9)	3.42	1.34
17	*Keep silent rather than risk error (-)(B4)	3.40	1.31
18	*Use L1 at social events (-) (B18)	3.38	1.32
19	Start conversations to practice Eng. (B21)	3.28	1.32
20	Practice Eng.w/bilinguals of my own L1(B13)	3.09	1.61

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*Note. (-) = scored in reverse Cronbach's alpha = .77

text" (4.34, 1.17), and "correcting own pronunciation during individual study" (4.22, 1.60). The behaviors showing lowest frequency of use were "memorizing sentences without analyzing them" (2.80, 1.17), "writing own English dialogs or journals to practice" (2.67, 1.35), and "attending extra language lab to practice" (2.14, 1.23). [See Table 3.]

To test for differences between students in the University and Extension groups, the scale totals and individual items were compared. For the scale totals, there was no difference between groups in classroom strategies used (t = 1.38, n.s.); a non-significant trend towards greater use of interactive behaviors on the part of the Extension group (t = 1.86, p < .067); and a clear difference in use of strategies during individual study with Extension students using them significantly more frequently than the University group (t = 2.24, p < .05). The items which showed significant group differences are displayed in Table 4. In all cases, means for the Extension group were higher than those for University students.

Learning Strategies and Achievement in ESL

To determine which strategies were associated with English achievement, Pearson correlations between the scale totals, the individual strategy items, and the achievement measures were calculated. The achievement measures were final grades and final exam scores, including scores from the subsections on Writing Error Detection, Reading Comprehension, Listening Comprehension, and Composition.

Final grades. Final grades in the course were positively linked with two variables, "going over homework after class" (r = .37, n = 55, p < .01) and "using English at social events" (r = .27, n = 55, p < .05). Three variables, all related to interaction, showed negative associations with grades: they were the total for Scale B, (r = -.26, n = 58, p < .05), and two of its component items, "using gestures to communicate if I don't know words" (r = -.36, n = 58. p < .01) and "starting conversations to practice English" (r = -.26, n = 58, p < .05).

Total exam scores. Total exam scores were positively related to seven variables and negatively linked with two of them. The items

Table 3

Means and Standard Deviations of Learning Behaviors, University and Extension ESL Students

(Scale 6=always, 1=never, 0=n/a)

Scale C. In Individual Study Outside Class (n = 64)

Rank	Item	$\bar{X}$	sd
1	Get gist before looking up new words (C13)	4.61	1.02
2	Look up new words in glossary of text (C14)	4.34	1.17
3	Correct own pronunciation during study (C1)	4.22	1.60
4	Watch TV programs in English (C7)	4.11	1.35
5	Read sample sentences in dictionary (C10)	4.09	1.18
6	Try out different ways to say things (C21)	3.86	1.17
7	Go to English sound track movies (C20)	3.86	1.49
8	Read English newspapers, magazines (C11)	3.69	1.18
9	Associate new words w/ L1 equivalents (C8)	3.69	1.23
10	Pronounce new words in dictionary (C4)	3.55	1.42
11	Listen to the radio in English (C15)	3.52	1.54
12	Describe actions, objects in English (C6)	3.48	1.11
13	Associate new words with images (C18)	3.36	1.20
14	Practice things missed in class (C5)	3.23	1.24
15	Analyze English/ L1 contrasts (C3)	3.16	1.25
16	Memorize words by grouping them in English (C16)	3.14	1.23
17	Make vocabulary lists or cards (C9)	2.97	1.49
18	Memorize sentences as units or chunks (C22)	2.95	1.04
19	Memorize sentences w/o analyzing them (C12)	2.80	1.17
20	Write own English dialogs or journal (C19)	2.67	1.35
21	Attend extra language lab to practice (C17)	2.14	1.23

Cronbach's alpha = .80

Table 4

Strategy Items Showing Group Differences

Item	Univ. (n=53)		Ext. (n=33)		T
	$\bar{X}$	(sd)	$\bar{X}$	(sd)	
A8, Guess from context	4.70	(1.08)	5.30	(.73)	3.09**
A15, Ask T to repeat	3.15	(1.20)	3.82	(1.21)	2.50*
B2, Ask others to repeat	4.04	(1.34)	4.85	(1.15)	2.87**
B5, Use new words	3.70	(1.08)	4.27	(1.10)	2.37*
B6, Rephrase if need to	4.81	(1.09)	5.21	(.78)	1.97*
B15, Attention to rules	3.62	(1.25)	4.42	(1.17)	2.96**
C9, Make vocab. lists	2.64	(1.17)	3.39	(1.71)	2.14*
C15, Listen to L2 radio	3.12	(1.52)	4.09	(1.49)	2.87**
C18, Associate w/images	3.27	(1.10)	3.88	(1.36)	2.23*
C20, Go to L2 movies	3.58	(1.57)	4.61	(1.34)	3.20**

Note. * $p < .05$

** $p < .01$

showing positive relationships with exam scores were "saying the answer to myself if an error was made" (r = .24, n = 80, p < .05), "using English voluntarily in class" (r = .28, n = 80. p < .01), "socializing with speakers of English" (r = .24, n = 80, p < .05), "using English at social events" (r = .25, n = 77, p < .05), "associating new words with native language equivalents" (r = .28, n = 80, p < .01), "reading sample sentences in the dictionary" (r = .23, n = 80, p < .05), and "getting the gist before looking up words" (r = .25, n = 80, p < .05). Negative relationships with exam scores occurred with "starting conversations to practice English" (r = -.33, n = 80, p < .01) and "watching TV in English" (r = -.22, n = 79, p < .05).

Exam Subsections. The Writing Error Detection section of the exam had positive associations with four variables and inverse relationships with seven. The positive correlations were "practicing English with bilinguals who speak my own L1" (r = .26, n = 70, p < .05), "using English at social events" (r = .25, n = 69, p <.05), "using English at a job" (r = .31, n = 56, p < .01), and "reading sample sentences in the dictionary" (r = .26, n = 70, p < .05). Negative associations were observed with "guessing from context" (r = -.28, n = 70, p < .05), "paying attention to rules in talk" (r = -.32, n = 70, p < .01), "starting conversations to practice" (r = -.22, n = 70, p < .05), "describing actions or objects in English" (r = -.24, n = 68, p < .05), "watching TV in English" (r = -.32, n = 69, p < .01), "listening to the radio in English" (r = -.26, n = 69, p < .05), and "writing English dialogs or journals to practice" (r = -.25, n = 67, p < .05).

The Reading Comprehension section of the exam showed positive relationships with two variables, "associating new words with images" (r = .26, n = 68, p < .05) and "using the second language voluntarily in class" (r = .26, n = 70, p < .05); and one negative association with "starting conversations to practice" (r = -.22, n = 70, p < .05).

The Listening Comprehension section demonstrated positive associations with nine variables and showed no negative relationships with any. The strategies linked with listening comprehension were: "saying the answer to self when an error was made" (r = .34, n = 70, p < .01), "guessing from context" (r = .33, n = 70. p < .01), "using

English voluntarily in class" (r = .26, n = 70, p < .05), "socializing with English speakers" (r = .31, n = 70, p < .01), "using English at social events" (r = .26, n = 69, p < .05), "using English at a job" (r = .37, n = 56, p < .01), "using English in other classes and activities" (r = .27, n = 63, p < .05), "reading sample sentences in the dictionary" (r = .28, n = 70, p < .05), and "going to movies with an English sound track" (r = .34, n = 70, p < .01).

Composition scores from the final exam showed no positive associations with any items and negative relationships with five. They were the total for Scale B, Interaction Strategies (r = -.21, n = 80, p < .05), and four individual items, "guessing meaning from gestures" (r = -.24, n = 79, p < .05), "starting conversations to practice" (r = -.23, n = 80, p < .05), "watching TV in English" (r = -.21, n = 79, p < .05), and "memorizing words by grouping them in English" (r = -.25, n = 77, p < .05).

Intergroup Differences. To examine differences in achievement between University and Extension groups, a series of t-tests was completed. Results appear in Table 5 and show that, on all achievement measures except Listening Comprehension, the University group scored significantly higher than the Extension students, with the greatest differences in the Writing Error Detection and Composition sections of the final exam.

Language Attitudes and Achievement in ESL

To probe for relationships between attitudes toward English and achievement, the factors generated from the Opinion Questionnaire were correlated with the achievement measures. Additionally, since we assumed that positive attitudes toward English might be associated with greater use of learning strategies, the same opinion factors were then correlated with the strategy scales.

Factor IV, representing positive evaluation of the students' experience in the ESL classroom, showed two significant positive relationships with achievement. It was positively correlated with Final Course Grades (r = .31, n = 47, p < .05) and with the Listening section of the final exam (r = .37, n = 58, p < .01). Factor III, denoting positive attitudes towards the study of second language in general, was also associated with higher scores on the Listening

Table 5

Achievement Comparisons,
University and Extension Students

	Univ.			Ext.			T
Criterion	n	X	(sd)	n	X	(sd)	
Final Grade	31	2.98	(.85)	34	2.34	(1.26)	-2.40*
Final Exam:							
Total Score	53	81.26	(6.75)	34	73.26	(8.73)	-4.54***
WED Section	43	14.00	(2.72)	34	11.38	(2.58)	-4.29***
RDG Section	43	25.49	(3.55)	34	23.65	(4.39)	-1.98*
LIS Section	43	7.53	(1.59)	34	7.88	(1.37)	1.02
COMP Section	53	34.53	(2.51)	34	30.56	(3.27)	-6.03***

Note. * $p < .05$

*** $p < .001$

section (r = .27, n = 58, p < .05). Factor II, which tapped a liking for English and a desire to interact with English speakers, was negatively linked with Reading Comprehension scores (r = -.27, n = 58. p < .05), and showed non-significant trends towards negative association with Total Exam Score (r = -.24, n = 61, p < .06) and Final Course Grades (r = -.25, n = 47, p < .09).

Interestingly, Factor II showed modest positive relationships with all three strategy scales. It was linked with more frequent use of learning strategies in the ESL classroom (Scale A, r = .33, n = 61, p < .01), during interaction outside class (Scale B, r = .30, n = 61, p < .05), and during individual study (Scale C, r = .34, n = 61, p < .01). As might be expected, Factor IV, the classroom-related factor, demonstrated a positive relationship with use of learning strategies in the classroom (Scale A, r = .38, n = 61, p < .01).

Comparisons of factor scores by group showed no significant differences for Factors I, II, and IV. However, for Factor III, which denoted enjoyment of second language study in general, the Extension group was significantly higher than the University group (t ratio = -2.63, p < .01). Because the Extension students had elected to study English, whereas the University students were required to take the course, this result is not surprising.

Summary and Discussion

These results indicated that, although these two groups of learners were similar in most respects, differences emerged in their propensity to use study strategies and in their achievement. While University and Extension students were comparable in their use of study strategies in the classroom, Extension students used significantly more strategies during individual study and also showed a tendency to make more frequent use of strategies during interaction outside class. Furthermore, they demonstrated more positive attitudes toward the study of English. However, their increased strategy use and generally more positive attitudes were not linked with higher achievement; the University students received significantly higher grades as well as higher scores on three of the four parts of the final exam, namely Writing Error Detection, Reading Comprehension, and Composition, all tasks closely related to language study in an academic

environment. There was no difference on Listening Comprehension, a skill area that pertains to second language use in real-world settings.

Reasons for these differences may lie in the nature of the two populations sampled. The University students were enrolled in the ESL class by requirement and not by choice; thus their less favorable orientation towards language study and the study of English is not unexpected. However, because they are students who pursue academic study in English, their familiarity and practice with tests in English, including language tests, is greater than that of the Extension students. Additionally, through other classes and academic activities, the University students are required to read and write in English, so their higher scores on those sections of the final exam probably reflect greater experience with the tasks.

The patterns of correlations of the individual learning strategies with achievement in ESL identify behaviors characteristic of effective learners in both settings. Among the most striking set of findings is that the use of the language to communicate in real situations, such as at jobs or at social events or in class, was consistently associated with higher achievement. However, simply starting conversations to practice the language, rather than with a specified purpose, was inversely associated with most achievement measures. Going over homework after class, a behavior typical of assiduous students in any setting, was linked with higher grades in the ESL classes. Use of media was not particularly helpful in enhancing achievement on measures related to literacy skills in English: watching TV, listening to the radio, or going to movies were, in general, negatively linked to Reading and Composition scores, although going to English movies was positively associated with Listening Comprehension. Students who made efforts to guess meaning from context also scored better on Listening Comprehension, although that behavior was negatively linked with scores on Writing Error Detection. Guessing meaning from gestures showed an inverse relationship with composition skills.

Taken together, these results suggest that the effective students were those who varied the strategies used according to the task. They made educated guesses when listening but also focused on form when appropriate. They made efforts to use English voluntarily in

class and outside of class, on the job, or at social events. When reading, they tried to get the general idea before looking up each word but they also consulted aids such as glossaries. When they did use dictionaries, they read all the sample sentences to see what a word meant. In both settings, the "good learner" was one who combined inductive and deductive strategies to master English as a second language.

STUDY #2: ESL STUDENTS IN ADULT SCHOOL

To determine whether or not the patterns observed in Study #1 were also characteristic of students enrolled in other settings, data from an additional instructional setting, a large community adult school in downtown Los Angeles, was collected. Besides providing additional data on strategies and opinions for comparison purposes, it was hoped that this sample would be large enough to permit comparison of the major first language groups involved to determine possible group differences.

Methodology

Subjects

The 177 students who took part in this study were enrolled in intensive intermediate and advanced ESL courses. These courses constituted levels 4 (n = 75), 5 (n = 22), and 6 (n = 57) of the school district's six-course sequence of adult ESL. (After completion of Level 6, a student can enter the high school equivalency program.) Average age was 27 years (sd = 5.3 years) with a range of 20 to 42. As a group, the students were well educated, almost all having completed the secondary level of education in their home countries (years of prior education outside the U.S. averaged 14.2 years, with a standard deviation of 2.1 years). On average, students had completed from two to seven years of prior English study (of over four hours per week) in their home countries. Participants were relatively recent arrivals in the U.S., with a mean length of residence of 1.4 years (sd = .5 years). Twenty different first language groups were represented, although 157 or 89% of the sample were speakers of Chinese dialects (n = 62), Spanish (n = 58), or Japanese (n = 37).

Procedures and Materials

The investigator contacted all students in March, 1987, and asked them to take part in a descriptive study of ESL learning. Students filled out a background information form that examined native language background, educational experience, and length of prior English study. During the Spring term, students completed two additional questionnaires, one regarding second language learning strategies and one on opinions related to the learning of second languages, particularly English. Both questionnaires were administered in English during class time, with the investigator and course instructor circulating to answer questions related to the vocabulary used or the meaning of various items. At the end of the term, students at each level took different tests of listening comprehension, grammar, and reading comprehension, as a part of the regular instructional program.

Learning Strategy Questionnaire. The Learning Strategy Questionnaire, the same as that used in Study #1 (also see McGroarty, 1988), consisted of three scales that assessed strategies used in the ESL classroom (Scale A, 19 items, alpha = .82); in interaction with others outside the ESL class (Scale B, 22 items, alpha = .80); and during individual study of English (Scale C, 20 items, alpha = .80). Strategies were rated by frequency of use, with 6 representing "always," 1 "never," and 0 used for "not applicable to me." Each scale initially contained 21 to 24 items, but items judged unreliable because of negative item-to-total correlations were eliminated from further analyses. A total of 166 students completed this questionnaire.

Opinion Questionnaire. The 65-item Opinion Questionnaire was the same as that used in Study #1 with some minor changes in wording and five additional items added to reflect the experience of an adult school rather than a university class. It used a seven-point Likert scale (ranging from strongly agree to strongly disagree) to assess attitudes toward the study of English and of second languages in general. This questionnaire was completed by 157 students, and 13 items with negative item-to-total correlations were deleted from further analyses. Factor analysis of the remaining 52 items revealed that a three-factor solution provided the best fit for these data, with

Factor I (23 items) representing a generally positive orientation towards the study of second languages and English; Factor II (16 items) capturing instrumental reasons for the study of English, such as relationship to future jobs or professional goals; and Factor III (13 items) related to integrative motivation as demonstrated by a desire to be able to use English in social interaction with Americans, make English-speaking friends, and think like English speakers.

Achievement Tests. As end-of-course achievement measures, Level 4 students took the Michigan Test of Aural Comprehension (MTAC); the English Proficiency Test, a multiple-choice test of grammatical structure; and the Reading for Understanding (RFU) test, a multiple-choice test of various levels of comprehension and vocabulary. Level 5 students took a multiple-choice comprehension test developed by the district; a cloze test of grammatical structures; and the RFU to assess reading comprehension. Level 6 students completed the Comprehensive English Language Test (CELT), a test of grammatical structure; the Michigan Test of English Proficiency (MTEP), which consisted of subparts measuring grammar, vocabulary, and reading; and the RFU to assess reading. Students in Levels 4 and 6 also received grades to provide overall achievement indicators.

Results

Learning Strategies

Means and standard deviations for the three scales appear in Tables 6 (Classroom Behaviors), 7 (Interaction Behaviors), and 8 (Individual Study Behaviors). These tables also provide a rank order and descriptive label for each item. In these calculations, any respondent choosing the 0 or "not applicable" option was deleted from the total for the scale; thus, while 166 students completed the questionnaire, the scale totals are lower because of these deletions.

As shown in Table 6, the most frequent strategies used in class (Scale A) were two related to written work, namely "taking notes on new words" (mean 4.83, sd 1.21) and "going over homework after class" (4.60, 1.35); and two related to comprehension, "guessing meaning from actions" (4.65, 1.22) and "guessing meaning from context" (4.55, 1.12). Least frequent were "ignoring things not understood in class" (2.92, 1.29) and "asking the teacher for examples of rules" (2.89, 1.19).

Table 6

Means and Standard Deviations of Learning Behaviors, Intermediate and Advanced ESL Students

(Scale 6=always, 1=never, 0= n/a)

Scale A. In the ESL Classroom (n=132)

Rank	Item	$\bar{X}$	sd
1	Take notes on new words (A18)	4.83	1.21
2	Guess meaning from actions (A3)	4.65	1.22
3	Go over homework after class (A21)	4.60	1.35
4	Guess meaning from context (A8)	4.55	1.12
5	Say correct form to self if error made (A4)	4.23	1.36
6	Interrupt self if error made (A7)	4.21	1.30
7	Say answer to myself (A2)	4.14	1.28
8	Use English voluntarily in class (A13)	4.10	1.34
9	Discuss lesson in English with peers (A5)	3.87	1.41
10	Compare answers with others in class (A19)	3.78	1.33
11	Ask teacher about exceptions to rules (A6)	3.59	1.30
12	Integrate new material with old (A20)	3.55	1.21
13	Ask teacher to repeat (A15)	3.52	1.41
14	Repeat new words so I'll learn them (A11)	3.11	1.25
15	Ask when, by whom an expression is used (A10)	3.04	1.02
16	Say correct answer aloud to self (A1)	2.99	1.19
17	Go over material after class (A9)	2.97	1.32
18	Ignore things not understood (A17)	2.92	1.29
19	Ask teacher for examples of rules (A12)	2.89	1.19

Reliability (Cronbach's alpha) = .82

The strategies used most often in interaction outside class (Scale B, Table 7) were two related to clarification of meaning, "correct myself when speaking" (5.02, .94) and "rephrase if I'm not understood" (4.91, .99); and a comprehension strategy, "guess meaning from gestures" (4.87, 1.12). During interaction, students were least likely to "socialize with English speakers" (3.43, 1.56), "keep silent rather than risk error" (3.38, 1.39), and "practice English with bilinguals who speak my own first language" (2.85, 1.49).

During individual study outside class (Scale C, Table 8), students said their most frequent strategy was "watching TV in English" (4.97, 1.09), followed by "looking up new words in the glossary" (4.46, 1.16), "getting the gist before looking up new words" (4.36, 1.25), and "reading the sample sentences in the dictionary" (4.26, 1.20). They were least likely to "memorize words by grouping them in English" (3.08, 1.24), "memorize sentences as units or chunks without breaking them into parts" (2.68, 1.11), and "attend extra language lab to practice" (2.51, 1.33). (Not all of the adult school students had time in their schedules or access to the language lab, so this item was not universally applicable).

Intergroup differences. To test for differences in strategy use across the three major native language groups, Spanish, Chinese, and Japanese speakers, analyses of variance were conducted on the scale totals and the individual strategy items. Results, summarized in Table 9, showed that Spanish speakers saw themselves as significantly more likely than both Chinese and Japanese speakers to use classroom strategies (Scale A), and were also significantly more likely to use individual study strategies than Chinese speakers (Scale C). Interestingly, there were no group differences in the likelihood of use of interaction behaviors outside class (Scale B). Examination of the individual items contributing to these differences showed that, in most cases, the Spanish speakers saw themselves as making more frequent use of strategies than did either Chinese or Japanese speakers; in some cases, e.g. "saying an answer aloud," "interrupting oneself if an error made," and "asking a teacher when an expression can be used," the mean for Spanish speakers was significantly higher than those for both Chinese and Japanese. Spanish and Japanese speakers were also

Table 7

Means and Standard Deviations of Learning Behaviors, Intermediate and Advanced ESL Students

(Scale 6=always, 1=never, 0=n/a)

Scale B. In Interaction with Others Outside Class (n = 47)

Rank	Item	$\bar{X}$	sd
1	Correct myself when speaking (B3)	5.02	.94
2	Rephrase if I'm not understood (B6)	4.91	.99
3	Guess meaning from gestures (B17)	4.87	1.12
4	Use English at a job (B19)	4.72	1.48
5	Use Eng. w/classmates outside class (B23)	4.64	1.22
6	Use Eng. in other classes, activities (B24)	4.60	1.14
7	Ask others to repeat (B2)	4.49	1.23
8	Direct talk to familiar topics (B20)	4.36	1.31
9	*Avoid Eng.because of mental fatigue(-)(B14)	4.34	1.17
10	Use new words in conversation (B5)	4.32	1.09
11	Ask others for confirmation of English (B16)	4.23	1.15
12	Notice items that don't fit rules (B15)	4.23	1.40
13	Ask English speakers for help in Eng.(B1)	4.17	1.31
14	Start conversations to practice Eng. (B21)	4.06	1.29
15	Use gestures if I don't know words (B10)	4.00	1.55
16	Spell, write if I'm not understood (B12)	3.98	1.47
17	Use memorized forms to keep talking (B8)	3.96	1.25
18	Change known sentences to fit situation(B22)	3.68	1.46
19	Pretend to understand even when I don't(B7)	3.47	1.46
20	Socialize with English speakers (B9)	3.43	1.56
21	*Keep silent rather than risk error (-)(B4)	3.38	1.39
22	Practice Eng.w/bilinguals of my own L1(B13)	2.85	1.49

*Note: (-) = scored in reverse alpha = .80

Table 8

Means and Standard Deviations of Learning Behaviors, Intermediate and Advanced ESL Students

(Scale 6=always, 1=never, 0=n/a)

Scale C. In Individual Study Outside Class (n = 76)

Rank	Item	$\bar{X}$	sd
1	Watch TV programs in English (C7)	4.97	1.09
2	Look up new words in glossary of text (C14)	4.46	1.16
3	Get gist before looking up new words (C13)	4.36	1.25
4	Read sample sentences in dictionary (C10)	4.26	1.20
5	Listen to the radio in English (C15)	4.21	1.44
6	Pronounce new words in dictionary (C4)	4.12	1.39
7	Correct own pronunciation during study (C1)	4.09	1.56
8	Try out different ways to say things (C21)	4.03	1.28
9	Read English newspapers, magazines (C11)	3.97	1.30
10	Go to English sound track movies (C20)	3.97	1.42
11	Associate new words with images (C18)	3.75	1.18
12	Analyze English/ L1 contrasts (C3)	3.57	1.37
13	Make vocabulary lists or cards (C9)	3.43	1.44
14	Describe actions, objects in English (C6)	3.42	1.26
15	Practice things missed in class (C5)	3.39	1.35
16	Memorize sentences w/o analyzing them (C12)	3.29	1.29
17	Write own English dialogs or journal (C19)	3.28	1.43
18	Memorize words by grouping them in Eng. (C16)	3.08	1.24
19	Memorize sentences as units or chunks (C22)	2.68	1.11
20	Attend extra language lab to practice (C17)	2.51	1.33

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alpha = .82

Table 9

Strategy Comparisons for Three Major
Native Language Groups of Adult ESL Students

Overall Strategy Differences:

Scale Totals:

Scale A (Classroom): SP > CHI and JA*
Scale B (Interaction Outside Class): No significant differences
Scale C (Individual Study): SP > CHI*

Individual Item Differences:

Scale A:

A2, Say answer to self: SP > JA*
A4, Say answer aloud: SP > CHI* and JA*
A6, Ask T for explanation: SP > JA*
A7, Interrupt self if error made: SP > CHI* and JA*
A8, Guess meaning from context: SP > CHI*
A10, Ask T when an expression used: SP > CHI* and JA*
A15, Ask T to repeat: SP > CHI* and JA*
A20, Go over material after class: CHI > JA*

Scale C:

C1, Correct own pronunciation: SP > JA*
C3, Analyze English/L1 differences: SP > JA*
C9, Make vocabulary lists: SP > JA*
C10, Read sample sentences in dictionary: SP > CHI* and JA*
C11, Read English to practice: SP > CHI*
C13, Get gist before looking up words: SP > CHI* and JA*
C18, Associate new words with images: SP > CHI*
C20, Attend L2 movies: SP and JA > CHI*
C21, Think of alternative expressions: SP > CHI* and JA*

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* Note. SP = Spanish (n = 58)
CHI = Chinese (n = 62)
JA = Japanese (n = 37)

> = means significantly different at .05 level using ANOVA

significantly more likely to attend English language movies than Chinese. The single study strategy item showing a difference in direction was "going over material after class," where Chinese speakers were significantly higher than Spanish speakers.

Learning Strategies and Achievement in ESL

Achievement by Level. To determine which strategies were associated with mastery of English, the strategy items were correlated with achievement measures and grades. Because different achievement measures were used for each level, three different sets of correlations were done. Achievement correlations for Level 4 appear in Table 10; those for Level 5 appear in Table 11; and those for Level 6 in Table 12. It must be noted that, because of the large number of students and items used, some of these correlations represent chance relationships. However, the availability of achievement measures from three different levels also allows readers to see which behaviors are consistently positive or negative with respect to the criterion measures.

For Level 4 students, the strongest positive relationships that emerged were between the comprehension test and "guessing meaning from actions" and "getting the gist before looking up words." More modest associations occurred between "asking the teacher for examples of rules" and both the grammar test and the reading test. A number of strategies, many of them related to interaction behaviors such as "using memorized forms in talk," "starting conversations to practice English," and "discussing the lesson in English with peers in class," displayed negative relationships with various achievement measures.

Results for Level 5 students, analyzed by means of Spearman rather than Pearson correlations because of relatively small sample size, showed that "guessing meaning from actions" was positively related to comprehension, as were "taking notes on new words," "going over homework after class," and "correcting myself when speaking." The latter two behaviors were also positively related to the reading test. However, "guessing meaning from context" was negatively related to aural comprehension scores, suggesting that students who used this strategy were better at reading than at listening comprehension. Again, three behaviors related to types of oral interaction, "using

Table 10

Learning Behaviors Related to Achievement,
Level 4 Students
(Pearson Correlations)

Achievement Measures	Positive	Negative
Comprehension Test (MTAC) (n = 73)	A3, Guess meaning fr. actions (.36**) B3, Correct myself when speaking (.24*) B6, Rephrase if I'm not understood (.26*) C13, Get gist before looking up words(.34**)	A9, Go over material after class (-.26*) B8, Use memorized forms in talk (- .31**) B15, Notice items that bely rules (-.25*) B20, Direct talk to known topics (- .25*) B21, Start conversations to practice (-.30**) C19, Write own dialogs to practice (-.26*)
Grammar Test (EPT) (n = 73)	A12, Ask teacher for examples of rules (.22*)	A5, Discuss lesson in L1 w/peers (- .24*)
Reading Test (RFU) (n = 75)	A12, Ask teacher for examples of rules (.24*)	A5, Discuss lesson in L1 w/peers (- .24*)
Final Grades (n = 75)	A3, Guess meaning from actions (.25*) A17, Ignore things not known, focus on rest(.22*)	A5, Discuss lesson in L1 w/peers (-.24*) B8, Use memorized forms in talk (-.23*) B21, Start conversations to practice (-.22*)

Note. MTAC = Michigan Test of Aural Comprehension
EPT = English Proficiency Test
RFU = Reading for Understanding
* = $p < .05$
** = $p < .01$

Table 11

Learning Behaviors Related to Achievement,
Level 5 Students
(Spearman Correlations)

Achievement Measures	Positive	Negative
Comprehension Test (LAUSD) (n = 19)	A3, Guess meaning fr. actions (.49*) A18, Take notes on new words (.45*) A21, Go over homework after class (.48*) B3, Correct myself when speaking (.48*)	A8, Guess meaning fr. context (-.47*)
Grammar Test (Cloze) (n = 22)		A13, Use Eng. voluntarily in class (- .54**) B13, Practice Eng. w/ L1 bilinguals (-.47*) B16, Ask others for confirmation (-.54**)
Reading Test (RFU) (n = 22)	A8, Guess meaning from context (.48*) A21, Go over homework after class (.48*)	

Note. LAUSD = district-developed comprehension test
RFU = Reading for Understanding

* = $p < .05$
** = $p < .01$

English in class," "practicing English with bilinguals of my own first language," and "asking others for confirmation in English," showed negative relationships with the grammar test.

For Level 6 students, the strongest positive relationships with the grammar tests, the CELT and the MTEP grammar section, occurred with "using English with peers outside class" and "changing known sentences to fit during interaction." An analytic strategy, "comparing answers with others in class," was positively related to results for the MTEP grammar and vocabulary tests. "Reading English newspapers" was positively related to both the MTEP reading section and the RFU test. Some interaction behaviors, such as "starting conversations to practice English," "using gestures if I don't know words," and "spelling or writing things if I'm not understood" showed negative relationships with the grammar, vocabulary, or reading tests (see Table 12).

Group differences. To determine differences in achievement for the major native language groups involved (Spanish, Chinese, and Japanese), a series of comparisons using analysis of variance with Scheffe's post-hoc tests was done. Because each course level used different criterion measures, the comparisons were done within level rather than across level for the three groups. For the Level 4 students, there were no significant differences on the comprehension test, grammar test, or final grades. The only significant contrast was on the reading test, where the Spanish speakers scored significantly higher than the Japanese ($F = 3.96$, $df = 2,53$, $p < .05$). Level 5 students showed no significant differences by native language group on any of the measures. For Level 6 students, scores on the general grammar test, the CELT, were significantly higher for Spanish and Chinese speakers than for the Japanese ($F = 3.87$, $df = 2,38$, $p < .05$). The same pattern was observed for results on the MTEP vocabulary section, where Spanish and Chinese speakers scored significantly higher than Japanese ($F = 8.25$, $df = 2,38$. $p < .01$). On the MTEP reading section, Spanish speakers were significantly higher than Japanese ($F = 7.82$, $df = 2,38$, $p < .01$), and on the RFU reading test, Spanish speakers scored significantly higher than both Chinese and Japanese ($F = 7.47$, $df = 2,38$, $p < .01$). There were no significant differences on the grammar section of the MTEP or in final grades.

Table 12

Learning Behaviors Related to Achievement,
Level 6 Students
(Pearson Correlations)

Achievement Measures	Positive	Negative
CELT Test (n = 55)	A15, Ask teacher to repeat (.27*) B19, Use English at job (.45*) (n=30) B23, Use English w/peers outside class (.38**)	B12, Spell, write if necessary (- .30) C14, Look up new words in text (-.28*) C17, Attend extra language lab (-.27*)
MTEP Grammar Section (n = 57)	A19, Compare answers w/ others in class (.26*) B22, Change known sentences to fit (.31**) C18, Associate new words with images (.30*)	A17, Ignore what is not understood (-.31*) B12, Spell, write if necessary (- .25*)
MTEP Vocabulary Section (n = 56)	A19, Compare answers w/ others in class (.28*)	B21, Start conversations to practice Eng(-.27*) C17, Attend extra language lab (-.32*)
MTEP Reading Section (n = 57)	C10, Pronounce new words in dictionary (.25*) C11, Read English newspapers (.28*) C13, Get gist before looking up new words (.28*) C21, Try out different ways to say things in Eng.(.28*)	A17, Ignore what is not understood (-.28*) B10, Use gestures if I don't know words(-.28*)
Reading Test (RFU) (n = 57)	C11, Read English newspapers (.37**)	A17 (-.25*), B5 (-.28*), B8 (-.40**), B10 (-.25*), B12 (- .38**), B13 (-.26*), B21 (-.45**), C3 (-.26*), C4 (-.26*), C5 (- .27*)

(continued next page)

Table 12 (continued)

Learning Behaviors Related to Achievement,
Level 6 Students

Achievement Measures	Positive	Negative
Final Grades (n = 59)	A2, Say answer aloud (.29*) A10, Ask when an expression is used (.27*) A15, Ask teacher to repeat (.26*) A18, Take notes on new words (.27*) C13, Get gist before looking up words (.35**)	C12, Memorize without analyzing (-.26*)

Note. CELT = Comprehensive English Language Test
MTEP = Michigan Test of English Proficiency
RFU = Reading for Understanding
* = $p < .05$
** = $p < .01$

Language Attitudes and Achievement in ESL

Opinion Factors and Achievement. To assess relationships between attitudes toward the learning of English and achievement in the adult school ESL class, the three factors derived from the Opinion Questionnaire were correlated with the criterion measures used at each level. Because of the different achievement criteria used for each level, the correlations were done within levels, using Pearson coefficients for Levels 4 and 6 and Spearman for Level 5.

For Level 4 students, none of the three opinion factors showed any significant relationship to achievement tests or grades. For Level 5 students, there were no relationships with achievement observed for Factor I (general interest in the study of language and of English) or for Factor III (integrative attitude and a desire to interact with English speakers). However, Factor II (instrumental orientation towards English) showed a significant correlation with the reading test (rho = .61, n = 11, p < .05) and a nearly significant relationship with the cloze test of grammar (rho = .57, n = 11, p < .07). Results for Level 6 students also showed no correlations between Factors I and III and any of the achievement measures, although Factor II was significantly related to total scores on the Michigan Test of English Proficiency (r = .34, n = 49, p < .05) and also demonstrated a positive trend with the CELT grammar test (r = .25, n = 47, p < .09). Group differences. To test for differences in attitudinal profiles across the three largest native language groups, comparisons were conducted using analysis of variance with Scheffe's post-hoc tests. These revealed that, for Factor I (general interest in language study), Japanese speakers were marginally higher than Spanish speakers and significantly higher than Chinese speakers (F = 5.25, df = 2,93, p < .01). There were no group differences for Factor II (instrumental orientation). Factor III (integrative motivation) showed no differences between Spanish and Chinese speakers, although Chinese speakers were significantly higher than Japanese speakers on this variable (F = 9.23, df = 2,93, p < .001).

Summary and Discussion

Results from this study showed a group of adult language learners whose main arena for second language study is the ESL classroom.

Already well educated in their home countries (a characteristic not always true of adult populations, which often include students with very low levels of native language literacy and education), these students frequently relied on literacy-oriented strategies such as taking notes on new words or going over homework in class. Nonetheless, in class they were also likely to try to guess meaning from action or context.

If they used conscious strategies to acquire English outside of class, they were most likely to note frequent attempts to clarify their own meaning by rephrasing or correcting themselves if they were not understood and to guess meaning from gestures if they could not understand another speaker. Socializing with native speakers of English and practicing English with bilinguals of the same native language background were far less frequent. During individual study of English, students most often turned to the television as a source of input; they also frequently consulted written aids such as glossaries or dictionaries and rarely made efforts to memorize words or phrases by grouping them in English or memorizing whole phrases without understanding the parts. In sum, the strategies they favored involved a combination of conscious attention to the written form of the new language, judicious efforts to guess meaning when necessary, attempts to seek input through media and print, and attempts to comprehend the meaning of others and clarify their own meaning when engaged in natural language interaction.

Strategies related to achievement in ESL varied by level. Some inductive strategies, such as guessing meaning from actions and getting the gist of a passage before looking up new words, were related to comprehension measures. Using English with peers outside of class was characteristic of the most advanced students who did well on grammar tests. In addition, a number of interaction behaviors, such as starting conversations to practice English, asking others for confirmation of correctness in English, and practicing English with bilinguals of the same first language, demonstrated negative relationships with the criterion measures. This indicates that simply speaking English did not necessarily improve results on written achievement tests.

Some clarification strategies, such as using gestures if words are not known, or spelling or writing things if one is not understood, also demonstrated negative associations with achievement. These may be effective strategies during natural communication, but they also indicate lower skill levels in the second language. For the most advanced students, reading newspapers to practice was positively related to achievement on reading tests, although the same relationship did not appear for students at lower levels. Students evidently need to reach a fairly high intermediate level of reading skill before they can or will engage in the independent reading of authentic texts that coincides with higher achievement.

Of the three opinion factors identified in this study, only the instrumental factor related to desire to learn English for occupational or professional purposes demonstrated any significant association with tests of overall grammatical skill or reading. Thus, in populations of similar adult ESL learners, it is this factor, rather than a more general liking for language study or a desire for social integration with English speakers, which may be expected to predict achievement.

Although differences in strategy use and opinion factors for the three largest native language groups existed, they had no major impact on achievement. In terms of overall use of strategies, Spanish speakers saw themselves as more likely than either Chinese or Japanese to use study strategies in the classroom, and they also perceived themselves more likely to use individual study strategies than Chinese speakers. The three language groups did not differ in strategy use in interaction outside class. Attitudinal results showed that the Japanese students showed greater liking for academic language study, while the Chinese were higher on integrative motivation. There were, however, no differences between groups for instrumental motivation, the only factor linked with achievement. Spanish speakers performed better on reading tests, but this result may have been due to similarity of alphabet, similar directionality in reading, and the number of cognates between Spanish and English, rather than to any differences in strategies or motivational factors.

Findings from this study cannot be extended to all adult learners of English. The investigation is limited by the restricted range of student proficiency in English, including intermediate and advanced students but not the far more numerous beginners or those whose native language literacy is low. Additionally, because of limitations of both research personnel and participant time available, the study included no test of productive oral proficiency. Because ability to speak English is a major goal of many adult learners, it would be useful to have an oral test as part of future research. Furthermore, because the analysis depended on correlations, some of the results may reflect only chance relationships, and cause-effect statements are only speculations.

Nevertheless, results of this study provide a useful description of the behaviors that are most frequently used by adult learners of English, and give some indication of their worth. Achievement in ESL classes is enhanced by making appropriate guesses from actions or context, by selective attention to form as shown by comparing one's answers with others or going over homework after class, and by balancing reading strategies between getting the gist of a passage without looking up each word and making appropriate use of glossaries and dictionaries. Like other research (see McGroarty, 1987, 1988; Naiman, Frolich, Stern & Todesco, 1978; and Oxford, 1986), this study suggests that there is no single strategy that applies to all tasks in all situations. In showing what different groups of adult learners do as they approach the learning of English, the study takes an additional step toward refining our understanding of the many influences on second language learning.

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